

**THE ECONOMIC IMPACT OF
CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER
ON GREATER CINCINNATI**

Prepared for

Cincinnati Children's Hospital Medical Center

Jeff Rexhausen, Associate Director of Research
Ananta Dubey, Research Associate

June 2008

This report was prepared by the

Economics Center
for Education & Research

George M. Vredeveld, Director
University of Cincinnati

Table of Contents

Executive Summary	3
Section I - Introduction	6
Purpose of the Study	6
Data Sources	6
Definitions	7
Section II – Expenditures and Employment of Cincinnati Children’s	8
Personnel Expenditures	8
Other Operating Expenses	9
Capital Expenditures	9
Section III – Expenditures by Mission	12
Patient Care	12
Research	13
Education.....	14
Section IV – Revenues of Cincinnati Children’s	15
Patient Services Revenue	15
Grant Revenue	15
Gifts and Donations.....	16
Section V - Economic and Fiscal Impacts of Cincinnati Children’s	18
Hospital Operations	18
Capital Expenditures	18
Fiscal Impact.....	19
Section VI – Visitor Impact	20
Section VII – Impact on Household Income and Employment	22
Employment	22
Section VIII - Importance of New Money for the Local Economy	24
Impact of New Money	25
Section IX – Community Benefit Activities and Other Impacts	26
Community Outreach	26
International Collaborations	26
Section X – Growth Trends (2002 - 2007)	27
Overall Image and Reputation	27
Increased Economic Impact	27
Increased Expenditures	28
Increased Funding	28
Appendix A: Methodological Notes	29

Executive Summary

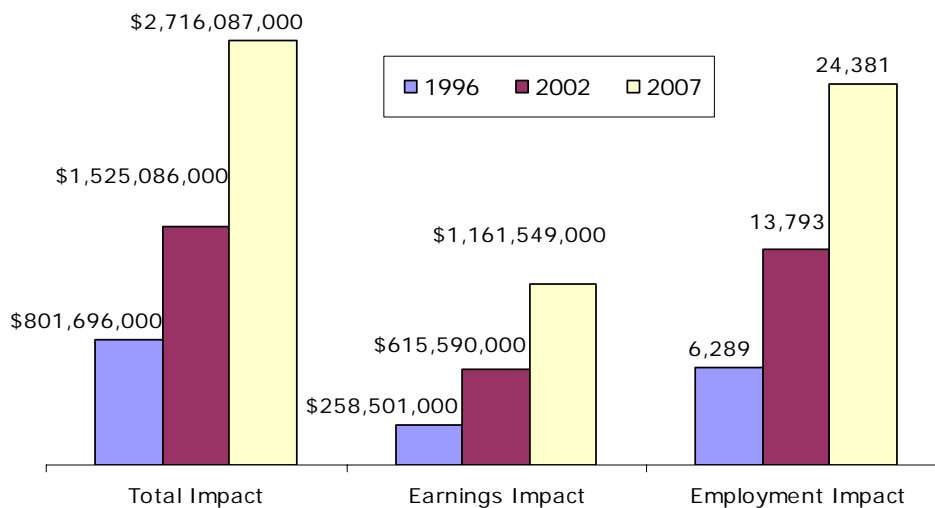
Cincinnati Children’s Hospital Medical Center (Cincinnati Children’s) is one of the largest and most respected pediatric hospitals and research centers in the United States. While Cincinnati Children’s first responsibility is to improve the health of children, the investments the organization makes in achieving that goal are also investments in the health of the community in which its employees live and work. This report estimates the economic impact of Cincinnati Children’s on Greater Cincinnati¹.

As Cincinnati Children’s strengthens its ability to impact the health of children, it also strengthens the economic impact it has on the community, as reflected in the following highlights from this economic impact study:

Economic Impact²

- The total annual economic impact of Cincinnati Children’s in fiscal year 2007³ was \$2.72 billion, an increase of 78 percent from \$1.53 billion in fiscal year 2002. This is three times the overall growth rate of the local economy during the same five year period.
- Included in the total economic impact is a household earnings impact of \$1.16 billion in fiscal year 2007, a nearly 90 percent increase from \$615.6 million in fiscal year 2002.
- The total impact on employment in Greater Cincinnati is 24,381 jobs in fiscal year 2007, a 77 percent increase from 13,793 jobs in fiscal year 2002.

Growth of Children’s Hospital Economic Impact
(Dollar figures correspond to the year 2007)



¹ Greater Cincinnati is defined as the 15-county Cincinnati Metropolitan Statistical Area. It includes Hamilton, Butler, Warren, Clermont, and Brown Counties in southwestern Ohio; Boone, Kenton, Campbell, Gallatin, Grant, Pendleton, and Bracken Counties in northern Kentucky; and Franklin, Dearborn, and Ohio Counties in southeastern Indiana.

² All monetary figures are represented in 2007 dollars for purposes of making comparisons.

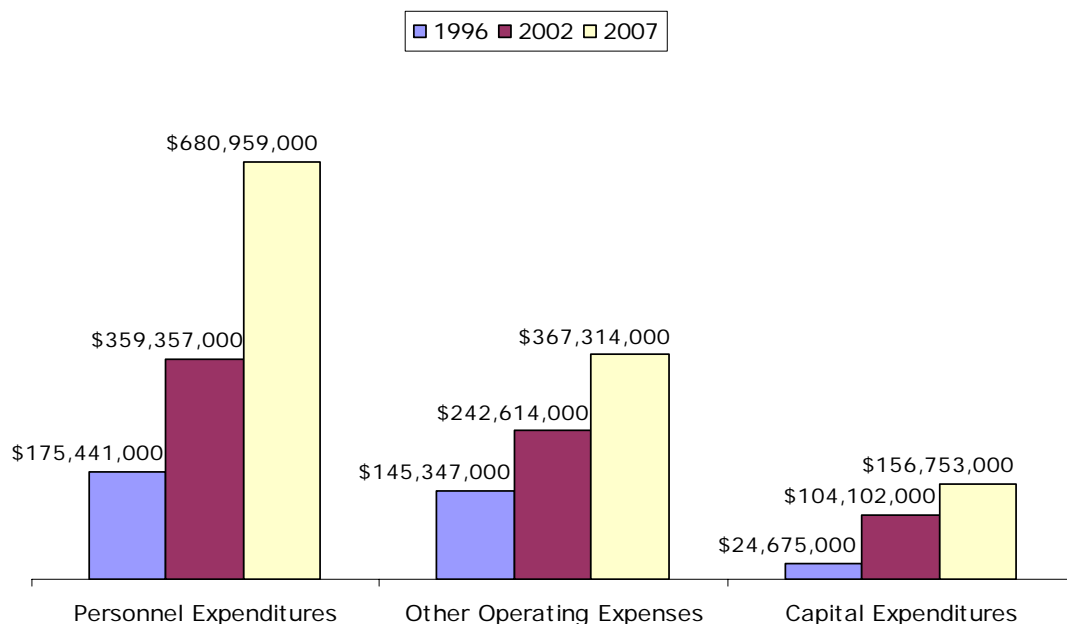
³ Cincinnati Children’s fiscal year begins July 1 and ends June 30. Fiscal year 2007 began July 1, 2006 and ended June 30, 2007.

Expenditures and Employment

Over the last decade, Cincinnati Children's has greatly expanded its staff and facilities, with a particular focus on developing unique and cutting-edge programs that place Cincinnati Children's in the forefront of pediatric care and research. This has allowed the medical center to achieve considerable growth in its patient care, research, and education programs. The expansion of Cincinnati Children's has required substantial increases in the amount of expenditures and number of employees as reflected in the following:

- Cincinnati Children's expenditures were \$1.21 billion in fiscal year 2007, an increase of 71 percent from \$706.1 million in fiscal year 2002. Personnel expenditures represent more than half of total expenditures.
- Wages and Benefits (including pension benefits) are the largest component of Personnel Expenditures and increased 81 percent from \$299.7 million in fiscal year 2002 to \$541.8 million in fiscal year 2007. Real wages per job increased 30 percent over the period, from \$42,564 to \$55,515.
- Total employment increased 52 percent from 6,433 in fiscal year 2002 to 9,760 in fiscal year 2007. This growth can be attributed to the fact that Cincinnati Children's has added approximately 728 net jobs per year over the last decade.
- Other Operating Costs (for various supplies and services, personnel services, and utilities) increased from \$242.6 million in fiscal year 2002 to \$367.3 million in fiscal year 2007, which reflects a 51 percent increase in expenditures.
- Cincinnati Children's invested \$156.8 million in Capital Expenditures in 2007, a 51 percent increase from \$104.1 million in 2002. Construction accounts for the majority of Capital Expenditures and can be attributed primarily to a major new research facility and an office building/parking garage at its main campus, as well as a new campus in Liberty Township.

Growth of Cincinnati Children's Spending by Type



Cincinnati Children's estimates it will spend an additional \$707.4 million on Capital Expenditures over the next five years which includes \$232.9 million in Construction activities and \$198.4 million in Capital Expenditures.

Other Aspects of Impact and Growth

In May 2008 *U.S. News & World Report* ranked Cincinnati Children's among the top three children's hospitals in General Pediatrics in its annual "America's Best Children's Hospitals" ranking. The national prominence and reputation of Cincinnati Children's results from the magnitude and quality of its patient care, research, and education efforts as highlighted below.

Patient Care Over the last decade, Cincinnati Children's has expanded clinical services and made investments to provide state-of-the-art medical facilities to its patients. Since 2002, patient encounters have increased from 660,124 to 917,204, an increase of 39 percent. Many of these come from outside the Cincinnati area, which increases the economic impact of the medical center. Within the last two years, Cincinnati Children's has served patients from all 50 states, Puerto Rico, and 48 foreign countries.

Research The research program at Cincinnati Children's has grown dramatically. In 2002, awards for sponsored research totaled \$84.4 million, and in fiscal year 2007, the figure was over \$123.4 million. In those same years, awards from the National Institutes of Health (NIH) grew from \$60.3 million to \$92.1 million. Cincinnati Children's ranked second among all pediatric medical centers nationally in NIH funding in the 2006 federal fiscal year.

Education Cincinnati Children's is home to the Department of Pediatrics of the University of Cincinnati College of Medicine, ranked as third best in the nation in 2007 by *U.S. News & World Report*. Cincinnati Children's also operates one of the largest and most highly rated pediatric residency programs in the nation. In addition it provides pediatric education to nursing students and a variety of other health professionals and trainees.

Community Benefit During 2007, Cincinnati Children's provided a total of \$170.5 million in community benefit programs and activities that include charitable patient care, internally subsidized research, graduate medical education, and community outreach programs.

Commercialization Cincinnati Children's clinicians and researchers are engaged in pursuits that result in scientific discoveries and the creation of new technologies that advance health care and have the potential to generate substantial new economic activity. The portfolio of technology opportunities for commercialization has significantly increased over the past several years.

Section I

Introduction

Cincinnati Children's Hospital Medical Center (Cincinnati Children's) is one of the largest and fastest growing businesses in southwest Ohio. Since 1996, the medical center has pursued an aspirational vision: "to be the leader in improving child health". Pursuing that vision has led to rapid growth in programs and services, patient volumes, facilities, staff, and revenue. Cincinnati Children's now serves patients at 15 locations in Greater Cincinnati, operates the largest pediatric research facility in the Midwest, and employs approximately 10,000 individuals.

Cincinnati Children's is nationally and internationally honored as a leader in improving health care delivery. In 2006, Cincinnati Children's became the first pediatric hospital to win the Quest for Quality Prize, presented by the American Hospital Association-McKesson Foundation. In 2008, the medical center will receive the Race for Results Award presented by the Child Health Corporation of America and the Picker Award of Excellence for advancing patient-centered care.

Not only do families in Greater Cincinnati have access to an unprecedented level of health care for their children at Cincinnati Children's, families around the world travel to Cincinnati when their children need specialized care for rare, complex, and difficult-to-treat conditions.

Purpose of the Study

Cincinnati Children's directly and indirectly impacts the larger community in a wide variety of ways, including:

- Improving the health and quality of life of children and their families
- Providing jobs to area residents, both Cincinnati Children's employees and employees of vendors and consultants
- Enhancing the community's reputation as a great place to live and work and helping area businesses recruit families to relocate to Greater Cincinnati

In fall 2007, Cincinnati Children's commissioned the Economics Center for Education and Research to update a 2002 study of the impact Cincinnati Children's has on the community's economy.

The purpose of this study is to identify and quantify, where possible, the economic impact that Cincinnati Children's has on the economy of the Cincinnati area. This report measures the economic impact of Cincinnati Children's on Greater Cincinnati's employment, household earnings, and business sales. The economic impact estimates use direct local spending by Cincinnati Children's, along with localized economic multipliers, to determine its indirect effects on other industries and households in the region. Other positive impacts that are difficult to quantify are also discussed in this report. They include the effect of Cincinnati Children's elite national reputation on the local economy as well as the contribution Cincinnati Children's makes to a healthier, more productive, regional population.

Data Sources

The data on which this analysis is based came directly from Cincinnati Children's. The medical center provided data on revenues, expenditures, staffing, and patients. The Economics Center for Education & Research supplemented this with information at its disposal about the interaction of Cincinnati Children's with the rest of the local economy.

Economics Center
for Education & Research

University of Cincinnati

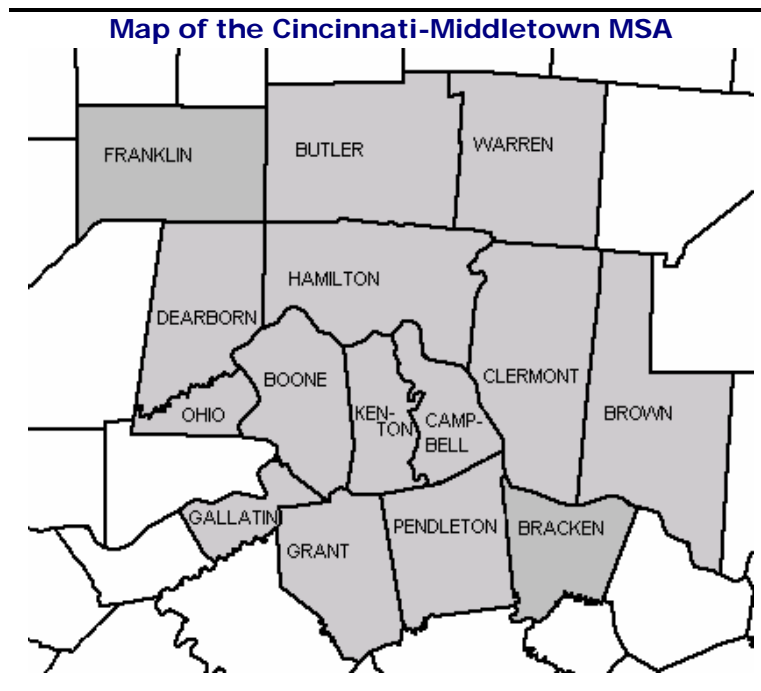
Definitions

The subject of study in this report is Cincinnati Children's. The economic impact calculations are based on the total expenditures of the medical center and of patients' families, who come from outside the area and spend money on lodging, food, and other goods and services in the Cincinnati area.

The economic impact of any business includes three elements, as defined here: the direct impact, the indirect impact, and the induced impact.

- The direct impact of Cincinnati Children's comprises the purchases of local resources (labor, goods, and services) to provide health care and related services.
- The indirect impact is made up of the purchases of local resources made by local businesses in order to produce the goods and services purchased by the medical center, along with consequent purchases by other businesses that supply the first group of businesses.
- The induced impact is the local household spending of the earnings of employees of Cincinnati Children's and its suppliers.

For the economic impact section of this report, the study area is the 15-county Cincinnati Metropolitan Statistical Area (MSA) as defined by the Bureau of the Census. It is a 15-county region in Ohio, Kentucky, and Indiana as shown on the following map. Hence, all economic impact estimates, except where noted, are made for this region.



The map above highlights the counties of the MSA: Hamilton, Butler, Warren, Clermont, and Brown Counties in southwestern Ohio; Boone, Kenton, Campbell, Gallatin, Grant, Pendleton, and Bracken Counties in northern Kentucky; and Franklin, Dearborn, and Ohio Counties in southeastern Indiana.

Section II

Expenditures and Employment of Cincinnati Children's

The economic impact of Cincinnati Children's Hospital Medical Center is generated through its expenditures and employment. The operation of Cincinnati Children's requires substantial spending on staffing, equipment, utilities, and other goods and services. Cincinnati Children's reported total expenditures of \$1.21 billion for the 2007 fiscal year, which are almost double the amount of expenditures in 2002. Table 1 shows total institutional expenditures for three major categories.

Major Category	Total	
Personnel Expenditures	\$680,959,000	57%
Other Operating Expenses	\$367,314,000	30%
Capital Expenditures	\$156,753,000	13%
Total	\$1,205,026,000	

Personnel Expenditures

Personnel Expenditures of Cincinnati Children's have more than doubled since 2002, accounting for 57 percent of all hospital spending in fiscal year 2007. The significant level of Personnel Expenditures can be attributed to the fact that Cincinnati Children's is one of the top five employers in the Tri-State. It directly employed 9,760 people in fiscal year 2007, which is an increase of 52 percent since 2002. Full-time employees represented 59 percent of the total, while 41 percent were employed part-time. Table 2 shows the breakdown of employees by full- and part-time status.

Full-time	5,766	59%
Part-time	3,994	41%
Total Employment	9,760	

Personnel Expenditures can be divided into four categories, as shown in Table 3 on the following page.

- The largest component of Personnel Expenditures (indeed, of all expenditures) by Cincinnati Children's is Wages and Salaries paid to employees. This component totals \$541.8 million and accounts for 80 percent of Personnel Expenditures (45 percent of all expenditures).
- Employee Benefits account for 13 percent of expenditures in this category, and payments for Pension, Social Security, etc. account for another 5 percent.
- An additional type of Personnel Expenditure is Temporary Personnel, which accounted for 2 percent.

Wages & Salaries	\$541,831,000	80%
Employee Benefits	\$92,244,000	13%
Pension, Social Security, Etc.	\$36,539,000	5%
Temporary Personnel	\$10,345,000	2%

Other Operating Expenses

The next major category is Other Operating Expenses, which make up 30 percent of all expenditures. Three specific expenditure areas were identified, as shown in Table 4.

- Supplies, Drugs, and Other constitute the largest category of Other Operating Expenses, which represents approximately 60 percent of the total category. This category also consists of a wide variety of expenditures, which includes administrative, research, repair, and non-medical overhead expenses.
- Purchased Services (including expenditures on non-medical professional services) accounted for 34 percent of Other Operating Expenses.
- Two other types of spending are Utilities and Liability Insurance, which respectively accounted for 6 percent of Other Operating Expenses.

Supplies, Drugs, and Other	60%
Purchased Services	34%
Utilities and Liability Insurance	6%

Capital Expenditures

The third major category is Capital Expenditures. Total spending on Capital Expenditures amounted to \$156.8 million in fiscal year 2007. This spending, which made up 13 percent of total expenditures in fiscal year 2007, is divided into three areas, as shown in Table 5.

- Construction expenditures totaled \$109.5 million, accounting for 70 percent of Capital Expenditures. Construction accounts for the majority of Capital Expenditures. Major projects include the following:
 - a. In November 2006, a 2,000 space parking garage, including 100,000 square-feet of office space, broke ground and is expected to be complete in August 2008
 - b. In November 2007, a 12-story, 415,000 square-foot research building opened
 - c. A new campus in Liberty Township is under construction and scheduled to open in August 2008
- Spending on Information Technology is an increasingly important area for Cincinnati Children's. Expenditures in this area accounted for 15 percent of capital spending, \$22.9 million in 2007.
- Other Capital Equipment expenditures totaled \$24.4 million, accounting for 15 percent of Capital Expenditures.

Construction	\$109,495,000	70%
Information Technology	\$22,866,000	15%
Other Capital Equipment	\$24,392,000	15%

Cincinnati Children's estimates it will spend an additional \$707.4 million on Capital Expenditures over the next five years, which includes \$232.9 million for completion of the construction projects started in 2007 and for future projects including new buildings along Burnet Avenue that will add parking, office space, and clinic space for outpatient care. Also included in future Capital Expenditures are significant investments in information technology with plans to spend \$198.4 million over the next five years, including expenditures for an integrated clinical and hospital information system.

Figure 1 (below and on the next page) summarizes the allocation of Cincinnati Children's 2007 expenditures:

Figure 1: Allocation of Cincinnati Children's Expenditures

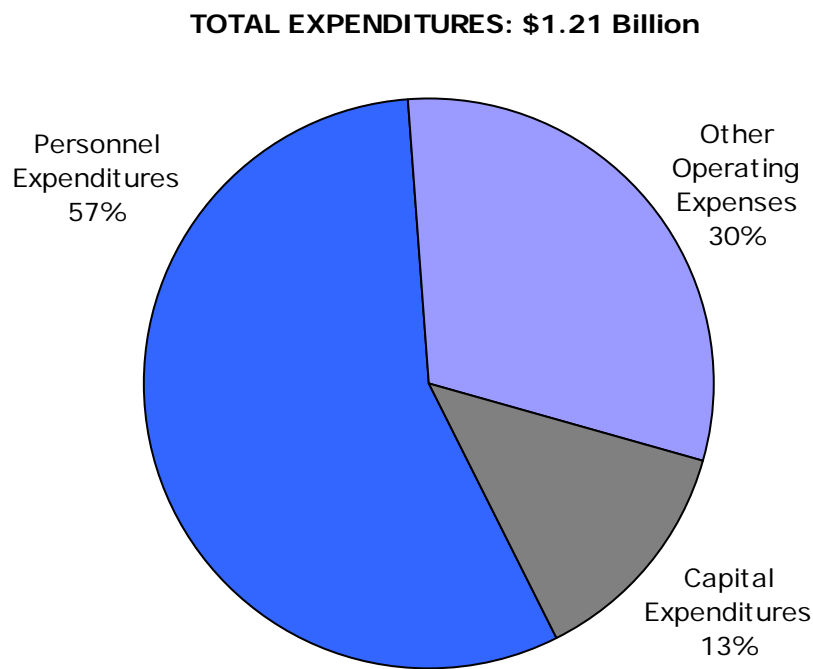
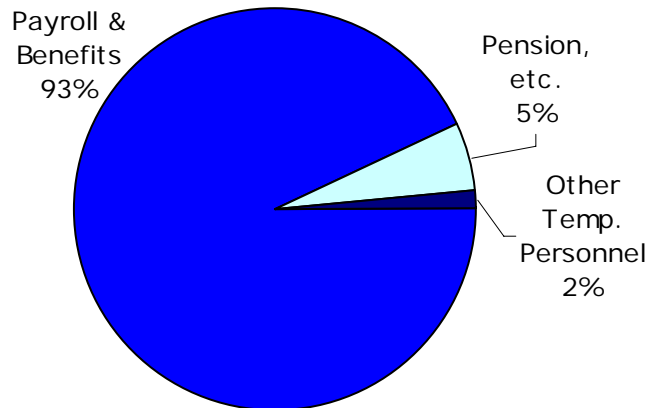
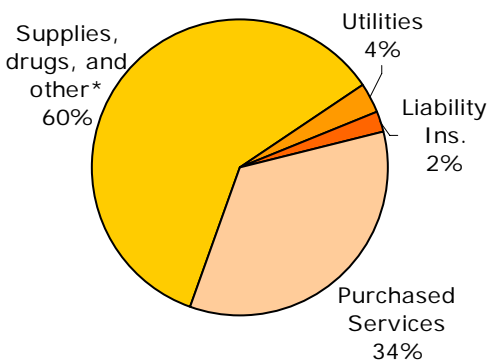


Figure 1 (continued): Allocation of Cincinnati Children's Expenditures

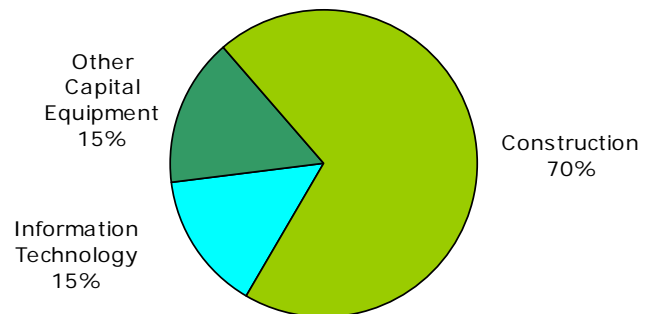
Personnel Expenditures: \$681.0 Million



Other Operating Expenses: \$367.3 Million



Capital Expenditures: \$156.8 Million



* This category also consists of a wide variety of expenditures which includes administrative, research, repair, and non-medical overhead expenses.

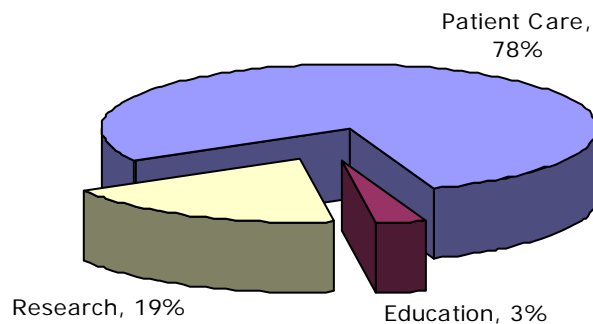
Section III

Expenditures by Mission

The work of Cincinnati Children's is divided into three broad categories: providing patient care, conducting research that advances the practice of pediatric care, and educating health professionals. These categories also determine the three main expenditure areas by mission for the hospital.

As shown in Figure 2, patient care services accounted for 78 percent of expenditures in fiscal year 2007. This figure includes spending on uncompensated care for medically indigent patients. Research accounted for 19 percent of expenditures and education for 3 percent.

Figure 2: Expenditures by Mission Area



Patient Care

The greatest portion of the medical center's expenditures (78 percent) supports its patient care services. Cincinnati Children's is one of the largest, most comprehensive children's hospitals in the country, offering services from well-child care to the most advanced diagnostic, medical, and surgical care for rare and complex conditions.

The hospital operates at more than 15 different locations across the Greater Cincinnati community. A new facility is under construction in Liberty Township, which is expected to open in August 2008.

Responding to a community crisis in mental health care, Cincinnati Children's has built the nation's largest pediatric Psychiatry department and has dedicated approximately 100 beds for inpatient mental health services. Cincinnati Children's established the College Hill Campus exclusively to provide mental health treatment for children and adolescents.

Over the last decade, Cincinnati Children's has expanded and strengthened clinical services. Investments were made in new facilities and state-of-the-art medical and information technology to improve the quality and safety of care.

The medical center has been recruiting world-renowned physicians and surgeons, researchers, and clinicians of all types. The total number of employees has grown dramatically and is expected to exceed 10,000 in fiscal year 2008.

All these investments have contributed to Cincinnati Children's growing reputation as a leader in pediatric care. This reputation is reflected in the significant increase in the number of families who travel here from outside the Greater Cincinnati area for access to care.

In fiscal 2007, the hospital served children and families through more than 917,000 patient encounters. Included in this figure are:

- 703,859 subspecialty outpatient visits
- 26,804 inpatient admissions
- 93,416 emergency department visits
- 28,961 surgical procedures
- 44,110 primary care visits

Research

Cincinnati Children's operates the largest pediatric research center in the Midwest and one of the largest in the country. Expenditures to support the research program constitute 19 percent of the medical center's budget. In November 2007, Cincinnati Children's opened a new 415,000 square-foot research building. Four years under construction, this building brings the medical center's dedicated research space to more than 900,000 square-feet.

The medical center invested in building new research facilities and establishing core resources to support innovative work by scientists in many disciplines. Today, investigators at Cincinnati Children's are on the leading edge of genetic and genomic research, bioinformatics, and personalized medicine. Discoveries made at Cincinnati Children's are improving the care the hospital provides its patients, and they are being licensed for commercial development so that they can become available to children everywhere.

Commercialization Cincinnati Children's clinicians and researchers are also engaged in pursuits that result in scientific discoveries and the creation of new technologies that advance health care and generate the potential for economic activity through invention disclosures, patents, and licenses. The Center for Technology Commercialization (CTC), which manages Cincinnati Children's current and evolving portfolio of research and technologies, is a key resource for the medical center, its investigators, Cincy Tech, and the local economy. The portfolio of technology opportunities for commercialization has significantly increased over the past several years. In fiscal year 2007 alone, Cincinnati Children's and its faculty have been engaged in:

- 87 invention disclosures (projecting 112 in fiscal 2008)
- 67 patent applications filed
- 9 patents issued
- 15 licenses signed
- \$5.5 million in licensing revenue (excluding the potential \$24 million sale of the royalty stream for the Rotarix vaccine)

In addition to the activity listed above, the CTC has helped to form several companies and funds based in the Cincinnati Region which, in turn, bring dollars and jobs from outside the area.

Education

Cincinnati Children's expenditures on education constituted 3 percent of its total expenditures in 2007. Cincinnati Children's offers a wide range of clinical and research fellowship opportunities. The medical center is affiliated with 11 colleges of nursing to provide pediatric education to nursing students, and educates health professionals in a wide range of health disciplines including occupational and physical therapy and speech pathology.

Cincinnati Children's includes the Department of Pediatrics of the University of Cincinnati College of Medicine, with responsibility for pediatric education of the medical students. In 2007, a *U.S. News & World Report* survey ranked this department as third best in the nation. In partnership with the University of Cincinnati, Cincinnati Children's also offers graduate education for master's and doctoral level students in developmental biology, genetic counseling, and immunobiology.

In 2007, Cincinnati Children's also launched a formal mentorship program to identify and coach future leaders within the institution.

Section IV

Revenues of Cincinnati Children's

Operational expenses of Cincinnati Children's are funded through revenues from patient care, research grants and contracts, charitable donations, and endowment funds. This section contains a limited analysis of Cincinnati Children's revenues, which totaled \$1.16 billion in fiscal year 2007. A thorough analysis is beyond the scope and nature of this economic impact study.

Patient Services Revenue

The majority of Cincinnati Children's revenue is patient services revenue. In fiscal year 2007, \$752.7 million, or 65 percent of the total \$1.16 billion, was net patient services revenue (gross billings less contractual write-offs and charity care). Cincinnati Children's cost of uncompensated care in fiscal year 2007 was \$144.9 million or 19 percent of total billings. The growth in patient services revenue, as shown in Table 6, is largely a reflection of Cincinnati Children's continuing growth as a provider of pediatric health care services.

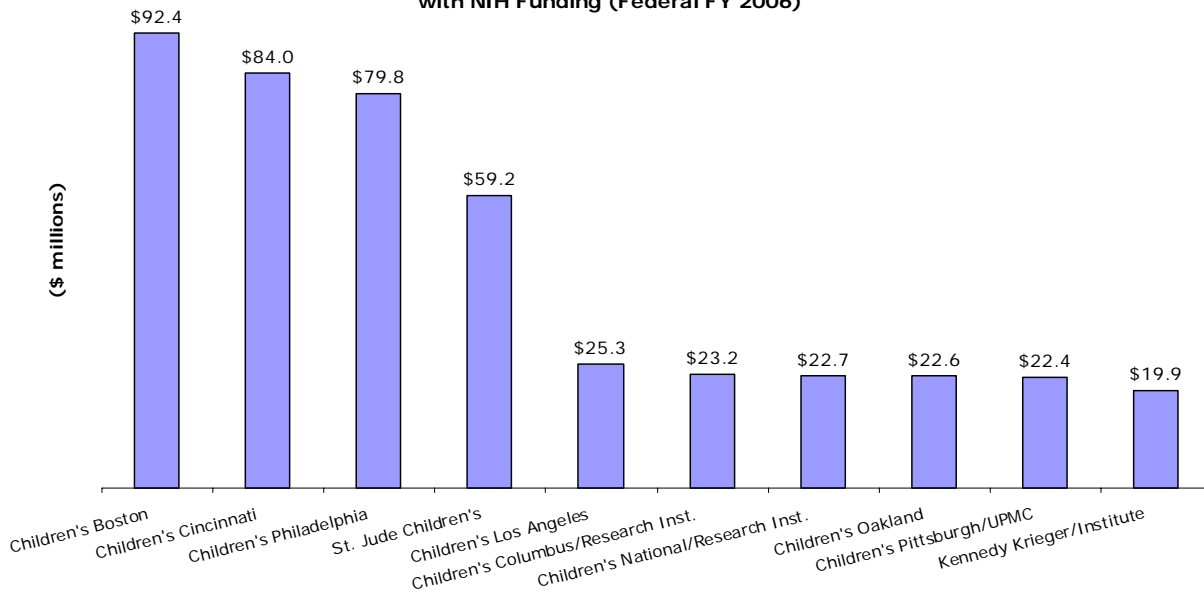
Table 6: Patient Services Revenue

	Net Patient Services Revenue	Annual Growth
FY 2005	\$586,817,000	--
FY 2006	\$657,491,000	12%
FY 2007	\$752,721,000	14%

Grant Revenue

The research program at Cincinnati Children's has grown dramatically. Cincinnati Children's ranked second among all U.S. pediatric research centers in 2006 NIH funding, behind only Children's Hospital Boston. Figure 3 shows the listing of pediatric research centers that received the highest levels of NIH funds in the 2006 federal fiscal year, with Cincinnati Children's receiving \$84.0 million.

Figure 3: Top 10 Children's Hospitals and Medical School Depts. of Pediatrics with NIH Funding (Federal FY 2006)



Despite a flat NIH budget over the last four years, grant awards to Cincinnati Children's have continued to increase. The medical center was awarded \$92.1 million by NIH during fiscal year 2007. Total awards for all sponsored research have increased from \$84.4 million in 2002 to over \$123.4 million⁴ in 2007.

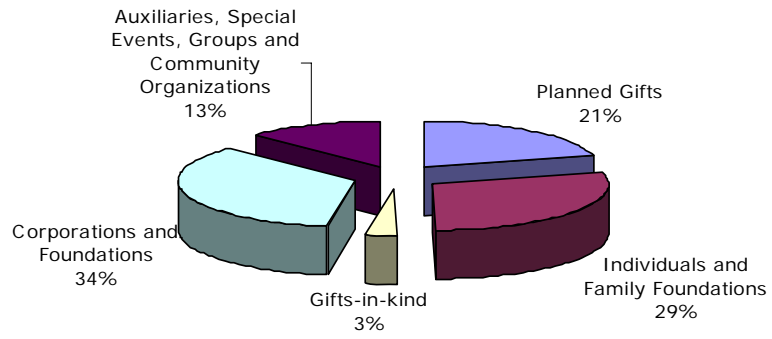
Among the highlights of 2007, Cincinnati Children's received a \$23.7 million contract from the National Institute of Allergy and Infectious Diseases of the NIH to renew and expand the Vaccine and Treatment Evaluation Unit. This award is the largest contract or grant the medical center has ever received.

Gifts and Donations

Gifts to Cincinnati Children's Hospital Foundation are a vital part of supporting the hospital's mission by helping to ensure its capacity to excel and grow in all three areas. The Foundation relies on all segments of the community to support its efforts. Gifts and donations totaled \$29.4 million during fiscal year 2007. Figure 4 shows the general sources of gifts to the Foundation.

⁴ Actual amount spent on research was \$119.5 million as per the 2007 audited financial statements.

Figure 4: Gifts to Cincinnati Children's



Section V

Economic and Fiscal Impacts of Cincinnati Children's

The expenditures described in Section II create additional indirect and induced economic impacts within Greater Cincinnati. As shown in the table below, expenditures by Cincinnati Children's Hospital Medical Center generated an additional \$1.51 billion in indirect and induced economic activity within the Cincinnati region. The presence of Cincinnati Children's also accounts for another \$5.7 million in direct and indirect economic activity as a result of non-resident spending in the Cincinnati area. When these expenditures and impacts are combined, Cincinnati Children's total annual economic impact on Greater Cincinnati was \$2.72 billion in fiscal year 2007.

Table 7: Total Economic Impact

	Total Expenditures	Indirect and Induced Impact	Total Economic Impact
Hospital Operations	\$1,048,273,000	\$1,314,534,000	\$2,362,807,000
Capital Expenditures	\$156,753,000	\$190,873,000	\$347,626,000
Visitor Spending	\$2,844,000	\$2,810,000	\$5,654,000
Total	\$1,207,870,000	\$1,508,217,000	\$2,716,087,000

Hospital Operations

Most of the economic impact of Cincinnati Children's comes from its operations. The total impact of hospital operations was \$2.36 billion in fiscal year 2007, which is 87 percent of the total impact. The indirect and induced impact is greater than the Direct Expenditures by the hospital. This is a result of the large economic multipliers for hospitals, which is another reason why Cincinnati Children's is so important to the local economy.

Table 8: Economic Impact of Hospital Operations

Direct Expenditures	\$1,048,273,000
Indirect and Induced Impact	\$1,314,534,000
Total Economic Impact	\$2,362,807,000

Capital Expenditures

Capital Expenditures are also an important part of the economic impact of Cincinnati Children's. Collectively, their economic impact was \$347.6 million in fiscal year 2007.

- Spending on Construction totaled \$109.5 million during fiscal year 2007. This created an additional \$144.2 million in indirect business sales and household income in the Greater Cincinnati economy, producing a total economic impact of \$253.7 million.
- Investment in Information Technology amounted to \$22.9 million during fiscal year 2007. This created an additional \$22.2 million in indirect business sales and household income in the Greater Cincinnati economy, producing a total economic impact of \$45.1 million.

- Other Capital Equipment accounted for the remaining \$24.4 million in Capital Expenditures. This created an additional \$24.4 million in indirect business sales and household income in the Greater Cincinnati economy, producing a total economic impact of \$48.8 million.

Table 9 shows the contributions to the total economic impact made by each of the three components of Capital Expenditures. Construction accounted for 73 percent of this impact, Information Technology accounted for 13 percent, and Other Capital Equipment generated the remaining 14 percent.

	Construction	Information Technology	Other Capital Equipment	Total
Total Expenditures	\$109,495,000	\$22,866,000	\$24,392,000	\$156,753,000
Indirect and Induced Impact	\$144,237,000	\$22,244,000	\$24,392,000	\$190,873,000
Total Economic Impact	\$253,732,000	\$45,110,000	\$48,784,000	\$347,626,000

The impact of Visitor Spending is discussed in Section VI.

Fiscal Impact

Cincinnati Children's accounted for \$73.1 million in state and local revenues from income and sales taxes in fiscal year 2007. This includes hospital employee income taxes, income taxes paid on indirect household earnings, and sales taxes from consumer spending of household income.

	Local Revenue	State Revenue	Total
Tax Payments:			
Payroll/Income Tax Withholding	\$10,910,000	\$21,505,000	\$32,415,000
Taxes from Indirect and Induced Activity:			
Payroll/Income Tax Withholding	\$10,277,000	\$10,277,000	\$20,554,000
Sales Tax	\$2,682,000	\$17,436,000	\$20,118,000
Total Impact	\$23,869,000	\$49,218,000	\$73,087,000

Section VI

Visitor Impact

Because patients' families and visiting medical professionals that Cincinnati Children's attracts from outside Greater Cincinnati also spend money at area restaurants, hotels, and other business establishments, Cincinnati Children's has an additional economic impact that is not accounted for in the preceding portions of this analysis.

Patient Families The families and visitors of patients create the majority of this impact. While a number of assumptions are required in order to estimate the size of the impact, conservative assumptions are used to ensure that the impact is not overstated. As shown in the following table, Cincinnati Children's handled 3,985 non-resident inpatient cases, with 7.9-day average length of stay in fiscal year 2007. This produces a figure of 31,535 potential days of family spending. This is a conservative estimate of potential spending days as it does not take into account the families who also travel to Cincinnati Children's for outpatient services. Many of these families have multiple outpatient appointments scheduled over several days which require them to spend the night and therefore, they also utilize local hotel, food, and entertainment resources in the area.

Daily Spending (excluding hotels)	
Number of Inpatient Cases	3,985
Average Length of Stay	7.9
Potential Days of Spending	31,535
Reduction in Spending Days	-16,380
Net Estimated Spending Days	15,155
Average Daily Spending per Family	\$41.54
Total Estimated Spending	\$630,000

Because Ronald McDonald House assists many of the inpatient families (1,092 in 2006 the latest year for which data is available) by providing accommodations at lower rates, the spending potential is reduced accordingly, with a conservative assumption that at least that number of families stayed at Ronald McDonald during fiscal year 2007 as well. These families also have a longer length of stay (assumed to be 15 days). The results of these adjustments are the net estimated spending days shown above. Note that these numbers may well be higher because extended families and other visitors are excluded from this analysis, as are families who come to Cincinnati Children's for outpatient care. Finally, conservative estimates are used for the average amount of spending.

Non-resident visitors also spent close to \$343,000 on their hotel stays during 2007. The following table shows the combined impact of non-resident daily and hotel spending. While their hotel spending comprises the payments for their stays at hotels, daily spending comprises all other expenditures they make on food, beverages, and other retail trade items.

	Daily	Hotel	Total
Total Spending	\$630,000	\$343,000	\$973,000
Total Economic Impact	\$1,396,000	\$672,000	\$2,068,000
Wages and Salaries Impact	\$439,000	\$216,000	\$655,000
Employment Impact	21	8	29

Ronald McDonald House Cincinnati Children’s partnership with Ronald McDonald House provides enormous benefit for patients and their families. Ronald McDonald House, an independent charitable organization, offers food, lodging, and other services (such as laundry, tutoring, and recreation) to patients’ families from 45 states (excluding Ohio) and 15 other countries. The House served 1,092 families in 2006, and it had operating expenditures totaling \$1.8 million, producing a total economic impact of \$3.5 million⁵.

Table 13: Ronald McDonald House Impact⁶

Total Spending	\$1,811,000
Total Economic Impact	\$3,463,000
Wages and Salaries Impact	\$879,000
Employment Impact	39

The importance of Ronald McDonald House goes beyond this modest economic impact. The availability of this service, which gives priority to families living outside of a 40-mile radius of Cincinnati, adds to the attractiveness of the care provided by Cincinnati Children’s, thus encouraging new money to be brought into the area.

Visiting Medical Professionals In fiscal year 2007, Cincinnati Children’s sponsored 48 continuing medical education conferences and symposia that attracted 626 participants from outside the area, in addition to a larger number of local professionals. Besides professionals visiting from around the country, the medical center also attracts professionals from around the world through international partnerships. The stays of these foreign professionals in Cincinnati ranges from a week to months.

Based on the varying lengths of these meetings, visiting medical personnel brought an estimated \$60,000 into the local economy and generated an impact of \$123,000, as shown in the table below.

Table 14: Visiting Medical Professional Spending Impact

	Daily	Hotel	Total
Estimated Spending Days / Hotel Nights	612	487	
Average Spending	\$34	\$80	
Total Spending	\$21,000	\$39,000	\$60,000
Total Economic Impact	\$47,000	\$76,000	\$123,000
Wages and Salaries Impact	\$15,000	\$25,000	\$40,000
Employment Impact	0.7	1.0	2.0

Taken together, these three sources of visitors from outside the region represent an additional \$2.8 million in local spending and \$5.7 million in economic impact for the Cincinnati area.

⁵ Cincinnati Children’s will be assisting the Ronald McDonald House in its planned \$7.0 million expansion in the coming year that will add 30 new rooms, expecting to serve 500 additional families a year.

⁶ All figures are in 2006 dollars since Ronald McDonald House operates on a calendar year and data for Cincinnati Children’s fiscal year 2007 was not available at the time of the study.

Section VII

Impact on Household Income and Employment

The impact of Cincinnati Children's Hospital Medical Center on household income begins with the wages and benefits paid to its own employees. Next come the indirect impacts, as other businesses hire and pay employees to meet the demands of the medical center. All of these activities generate household income and help to support full- and part-time jobs in the Cincinnati area.

Employees at Cincinnati Children's earn an average salary of \$55,515. In contrast to highly-paid athletes who generally live outside the region, the health-care professionals who work at Cincinnati Children's reside and do most of their spending in Greater Cincinnati. These individuals, thus, contribute significantly to the economic impact on the community. Moreover, they are an essential component of the highly-valued creative class that is so important for strong cities.

The economic impact on household earnings due to Cincinnati Children's totaled \$1.16 billion in fiscal year 2007. Total Capital Expenditures contributed \$108.6 million to total earnings impacts, while Non-Resident Spending accounted for \$1.6 million. The breakdown of this impact is shown in Table 15.

Type of Impact	Amount
<i>Operations - Direct Earnings</i>	<i>\$670,614,000</i>
<i>Operations - Indirect Earnings</i>	<i>\$380,758,000</i>
Operations - Combined Impact	\$1,051,372,000
Capital Expenditures Impact	\$108,603,000
Non-Resident Spending Impact	\$1,574,000
Total Impact	\$1,161,549,000

Employment

In fiscal year 2007, expenditures by Cincinnati Children's resulted in a total employment creation of 24,381 jobs throughout a variety of industries in Greater Cincinnati. This overall impact on employment is the sum of all jobs created or maintained as a result of the economic activity generated by Cincinnati Children's.

- 9,760 of these positions are the direct result of employment within the medical center.
- Another 2,832 positions, 12 percent of all jobs, are the result of Construction and Other Capital Expenditures.
- The remaining 69 positions are the result of Non-Resident Spending.

Table 16 on the following page shows the number of jobs directly and indirectly created by the economic activity generated in each of these three categories.

Table 16: Impact on Employment	
Type of Impact	Employees
<i>Operations - Direct Employment</i>	9,760
<i>Operations - Indirect Employment</i>	11,720
Operations - Combined Impact	21,480
Capital Expenditures Impact	2,832
Non-Resident Spending Impact	69
Total Impact	24,381

Section VIII

Importance of New Money for the Local Economy

A generally-accepted theory of regional economic growth, known as export-base theory, argues that a region's export industries are key to achieving sustained regional economic viability and growth. To the extent that its services are funded by out-of-area monies, Cincinnati Children's may be viewed as one of the region's exporting firms. Cincinnati Children's is part of the export base of the Cincinnati area. It exports its clinical, research, and educational services to individuals from outside the local economy.

In addition to funding from grants and other sources that originates outside of the area but is spent here, a substantial share of the economic impact of Cincinnati Children's is generated by new money coming into the local economy. Patients, their families and visitors, and professionals from outside of the area come here, eat at local restaurants, and stay in local hotels. This increases the economic impact of the medical center. Within the last two years, Cincinnati Children's has served patients from all 50 states, Puerto Rico, and 48 foreign countries.

Research Funding According to the audited financial statements for fiscal year 2007, a total of \$108.8 million spent on research came from grant revenues and research contracts. This includes \$98.0 million in federal money, with other agencies (mostly foundations and other non-profit organizations) providing roughly \$10.8 million. An additional \$2.4 million spent came from the state of Ohio and \$8.4 million from industries.

Table 17: Outside Funding of Cincinnati Children's Research

Federal Funds	\$92,100,000
Other Federal Agencies	\$5,896,000
Other Agencies	\$10,756,000
State Funds	\$2,390,000
Industry	\$8,366,000
Total	\$119,508,000

Gifts and Donations Cincinnati Children's received a total of \$8.6 million in new money (money from outside Greater Cincinnati) in the form of gifts and donations (29 percent of total gifts).

Patient Services Revenue Although patients from outside of the 15-county Cincinnati Metropolitan Statistical Area represent only 10 percent of all patients, those who come to Cincinnati Children's do so because it is an elite institution with the capacity to care for children who need higher levels of care, requiring larger proportions of surgery and inpatient care. Consequently, 29 percent of total patient revenue comes from a disproportionately small percentage of patients coming from outside of the Cincinnati MSA.

The proportions of patients and patient revenue coming from outside the Cincinnati region have increased considerably since 2002. The number of patients coming from outside the region has more than doubled.

Non-Resident Spending As described earlier, additional spending by visiting professionals and by families of non-resident patients brings an estimated \$2.8 million into the local economy which has an economic impact of \$5.7 million.

Impact of New Money

It is possible to calculate Cincinnati Children's clinical "exports" by using data on patient services revenue. In fiscal year 2007, charges from outside the Cincinnati area constituted approximately 29 percent of all patient revenue (inpatient and outpatient). Hence, an estimated \$787.6 million of the \$2.72 billion economic impact is generated by people who are not residents of the Cincinnati MSA. This new money is very important for its role in replenishing the local economy. Other sources of new money for the local economy include \$92.1 million in federal funding from the National Institutes of Health grants.

Section IX

Community Benefit Activities and Other Impacts

Community Outreach Cincinnati Children's Hospital Medical Center has fostered a tradition of service to the community. Cincinnati Children's has been engaged in providing community benefits like charitable patient care, community outreach programs, internally subsidized medical research, and graduate medical education. During 2007, Cincinnati Children's provided a total of \$170.5 million in community benefit programs and activities. These and other activities are consistent with its mission but do not produce increased revenue. Through constructive partnerships, outreach programs, and other activities, Cincinnati Children's reaches beyond the hospital's walls to meet a broad range of community needs.

Examples of activities undertaken for the community's benefit include:

- Taking on a leadership role in charitable organizations, such as United Way
- Providing leadership and support for initiatives to revitalize and develop the Uptown neighborhoods
- Providing medical and dental care services for medically indigent children
- Offering outreach and education to promote child safety through use of bike helmets and seat belts
- Leading outreach programs to reduce infant mortality and reduce violence
- Partnering with area businesses, organizations, and the Cincinnati Public Schools to provide eye exams and glasses for low income, school-age children
- Responding to a crisis in access to mental health services by dramatically increasing the number of psychiatrists and psychologists on the hospital's staff, increasing the number of hospital beds for psychiatric patients, and opening a facility for long-term residential psychiatric care

International Collaborations Cincinnati Children's has ongoing research and educational collaborations in Europe, Latin America, the Middle East, Africa, and Asia. Examples include the following:

- With support from Procter & Gamble (P&G), Cincinnati Children's has created the Bang Bao Scholars Program. ("Bang Bao" is Chinese for helping precious children.) This program brings mid-career researchers from select children's and women's hospitals in China to Cincinnati for a year of laboratory research under the mentorship of a senior investigator. The scholars return to their home institution with a \$25,000 grant from P&G for continuing research and professional development.
- Another collaboration in Asia is a five-year educational exchange with Muljibhai Patel Urological Hospital (MPUH) in India. Fellowship candidates selected by the Urological Society of India spend up to two years at Cincinnati Children's for training in pediatric urology. The goal is to establish MPUH as a regional/national center of excellence for pediatric urology and to achieve recognition for the specialty of pediatric urology in India.
- In fall 2007, Cincinnati Children's established a partnership with Great Ormond Street Children's Hospital in London, England, one of the best-known children's hospitals in the world. Cincinnati Children's will share its clinical expertise and best practices as well as its knowledge of how to make transformational improvement. The two institutions will explore opportunities for collaborative research and consultative services, and there will be educational exchanges involving physicians and other health care professionals.

Section X

Growth Trends (2002 - 2007)

Overall Image and Reputation Cincinnati Children's Hospital Medical Center enjoys a national reputation as one of the world's best pediatric hospitals. The *U.S. News and World Report* survey has ranked Cincinnati Children's third nationally among children's hospitals in General Pediatrics in 2008. *Child Magazine's* annual list of best children's hospitals lists Cincinnati Children's number five in the country.

The quantity and quality of research done at Cincinnati Children's is evidenced by the support it receives from NIH which in turn enhances the reputation of Cincinnati Children's in pediatric research. As mentioned previously, Cincinnati Children's Hospital ranked second among all pediatric medical centers nationally in NIH funding in fiscal year 2006.

Increased Economic Impact Cincinnati Children's continues to grow. Table 20 compares the 2002 economic impact results with the fiscal year 2007 results. Following are some highlights⁷:

- Total economic impact increased 78 percent from \$1.53 billion in 2002 to \$2.72 billion in 2007. This is three times the overall growth rate of the local economy during the same five year period.
- In 2007 dollars, expenditures increased 71 percent, from \$706.1 million to \$1.21 billion.
- Direct earnings and benefits increased from \$331.5 million to \$634.1 million. This reflects a 91 percent increase in real wage and benefit payments.
- New jobs are being added every month at Cincinnati Children's. Total employment increased 52 percent, from 6,433 to 9,760.
- The impact on household earnings increased 89 percent. The impact of employee payroll increased from \$615.6 million to \$1.16 billion.
- The employment impact increased from 13,793 jobs to 24,381, a 77 percent increase.

Table 20: Hospital Growth: 2002 - 07 (in 2007 dollars)			
	2002	2007	02-'07
Total Expenditures	\$706,074,000	\$1,205,026,000	71%
Wages and Benefits	\$331,541,000	\$634,075,000	91%
Total Employed: Jobs	6,433	9,760	52%
Full-time	62%	59%	
Part-time	38%	41%	
Total Economic Impact	\$1,525,086,000	\$2,716,087,000	78%
Business Sales (indirect) Impact	\$909,496,000	\$1,508,217,000	66%
Household Earnings Impact	\$615,590,000	\$1,161,549,000	89%
Total Impact on Employment: Jobs	13,793	24,381	77%

Dollar figures from analysis of 2002 data are inflated by 13.9 percent change in CPI from 2002 to 2007.

⁷ All monetary figures are presented in terms of 2007 dollars for making data comparable

Increased Expenditures Table 21 shows comparisons for individual expenditure categories. These increased expenditures primarily result in the increased impacts discussed earlier. Following are some highlights:

- In 2007 dollars, wage and salaries increased 81 percent from \$299.7 million to \$541.8 million. Real wages per job increased 30 percent over the period, from \$42,564 to \$55,515.
- Other Operating Costs (for various supplies and services, personnel services, and utilities) increased from \$242.6 million to \$367.3 million, which reflects a 51 percent increase in expenditures.
- Total Capital Expenditures increased 51 percent from \$104.1 million to \$156.8 million. This is due to large increases in both Construction and other Capital Expenditures. Expenditures on Capital and Construction are budgeted at \$290.6 million for the next year. Cincinnati Children's estimates it will spend around \$715.1 million on Capital Expenditures during 2008 - 2012.

	2002	2007	02-'07
Wages and Salaries	\$299,738,000	\$541,831,000	81%
Total Employed: Jobs	6,433	9,760	52%
Average Wage per Job	\$42,564	\$55,515	30%
Other Operating Costs	\$242,614,000	\$367,314,000	51%
Capital Expenditures	\$104,102,000	\$156,753,000	51%
Construction	\$60,497,000	\$109,495,000	68%
Other Capital	\$43,605,000	\$47,258,000	8%

Increased Funding Since 2002, Cincinnati Children's has seen an immense growth in its NIH funding (primarily for research). NIH funding over the past eight years is depicted in Table 22.

2000	\$35,033,198
2001	\$39,308,861
2002	\$57,110,263
2003	\$70,883,446
2004	\$73,784,037
2005	\$83,121,177
2006	\$83,974,690
2007	\$92,100,000

Between 2000 and 2007, total NIH funding has grown by \$57.1 million or 163 percent. This growth rate is especially important when it is considered that total NIH funding (to all institutions) has increased from \$14.7 billion in 2000 to \$20.8 billion in 2006, which represents an increase of 41 percent.

Appendix A

Methodological Notes

The total economic impact of Cincinnati Children's is the sales, income, and jobs of Cincinnati Children's plus its direct, indirect, and induced impacts on the local economy. More simply stated, the total economic impact is the value of Cincinnati Children's expenditures plus the value of any other local economic activity that is directly or indirectly linked to it.

An economic impact analysis measures an organization's total economic effect on the region. The total economic effect is derived not only from the direct expenditures made by the organization in the geographic area under analysis but also from the economic benefits that accrue to local businesses and households from the recirculation of this money. This approach requires understanding the nature and extent of an organization's local expenditures to calculate how they affect overall business sales, household earnings, and employment in the region. Economic impact analyses multiply local expenditures by an industry and location specific factor that reflects how much *indirect* business activity, earnings, and employment will result after the initial spending or investment has occurred.

Measuring the indirect and induced impacts related to the Operations and Capital Expenditures of Cincinnati Children's is made possible by multipliers derived from an input-output table for the Cincinnati MSA. The Bureau of Economic Analysis of the U.S. Department of Commerce has constructed these tables for major metropolitan areas in the U.S. through its RIMS II project. The RIMS II tables for the 15-county Cincinnati MSA provide multipliers to measure the indirect and induced impacts of virtually any type of economic activity in the region.

Comparison of 1996 and 2002 data with 2007 data required adjustments for inflation. To adjust for inflation, the change in the Consumer Price Index for the Cincinnati area was used.